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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10 015,063	12/11/2001	James R. Heath	0180.0001	7255

7590 01/24/2003

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EXAMINER

LE, THAO P

ART UNIT

PAPER NUMBER

2818

DATE MAILED: 01/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/015,063

Applicant(s)

HEATH ET AL.

Examiner

Thao P Le

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 December 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 12-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 7.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

**DETAILED ACTION**

***Information Disclosure Statement***

1. The information disclosure statement (IDS) submitted on 02/22/02 was filed after the mailing date of the Application on 12/11/01. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.
2. Applicant's election of claims 13-20 in Paper No. 9 is acknowledged.
3. Claims 13-20 are present for further examination.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 13-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chua et al., U.S. Patent No. 5,502,315.

Regarding to claims 13-14, Chua et al. discloses a device including limitations that recited in claims 1-2. See Figs. 3-8 and depending portions of specification. Chua

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et al. discloses the device comprising a substrate 32, a first electrode pattern 33 formed on the substrate, a layer molecule 55 (amorphous Silicon) having an electrical characteristic deposited onto the substrate, a layer of electrically conductive material 56 deposited onto the layer 55, and a second electrode pattern 36 deposited onto the conductive layer (See Fig. 5). However, Chua et al. doesn't disclose that the molecule 55 layer covers the substrate. It would have been well known in the art that the molecule layer cover all or part of substrate would have been obvious and it would have not changed the manner or function of the structure. It also would have been a matter of design choice to have the molecule layer covering the substrate depending on each designed device.

Regarding to claim 15, Chua et al. discloses that the substrate is made of silicon.

Regarding to claim 16, it would have been obvious in the art to use either rotoxanes, catenanes, or pseudorotaxanes to form molecule layer.

Regarding to claim 17, Chua et al. doesn't disclose the electrically conductive layer is made of Titanium or Chromium. However, it would have been obvious in the art that Ti and Cr well known to be used as conductive material.

Regarding to claim 18, Chua et al. discloses that the layer 55 is deposited by vapor deposition.

Regarding to claims 19-20, Chua et al. discloses that the first and second electrode are made of metal such as aluminum. It would have been well known in the art that other metal such as gold, silver, cobalt, iron, nickel, tin, copper etc... are also widely used in the art.

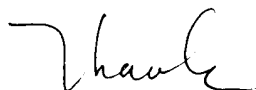
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**Conclusion**

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thao P Le whose telephone number is 703-605-1187. The examiner can normally be reached on M-T (8:00-6:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on 703-308-4910. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-4015 for regular communications and 703-308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.



Thao Phuong Le  
January 9, 2003



HOAI HO  
PRIMARY EXAMINER